

REMARKS

Claims 1 to 40, 67 to 75, and 77 to 80 have been canceled. Claims 41 to 66 and 81 to 94 have been withdrawn from consideration. Claims 76 and 95 to 97 remain under consideration.

Claim 76 has been amended to include the limitations of claim 77 and simplify the issues under consideration. With the inclusion of the limitations of claim 77 in claim 76, the rejection of claim 77 will be discussed in connection with amended claim 76.

Claims 77, 95 and 96 have been rejected under 35 U.S.C. 103(a) as being obvious over Forsten et al. (US Patent No. 6,312,561) in view of Eddy (US Patent No. 5,788,184).

Forsten et al disclose a flame barrier paper 24 that includes aramid fibrils, floc, and 40 to 70 weight percent mica. Forsten et al also disclose: treating the flame barrier paper 24 with a fluoropolymer coating to form a moisture blocking layer on the sheet; adhering the flame barrier paper 24 to bagging film 25 (preferably, a polyester, polyvinyl fluoride, or polyimide film) which increases the tear resistance of the flame barrier paper 24; and using the bagging film with a sound or thermal insulative material such as glass wool or aramid batting. Forsten et al do not disclose or suggest the use of a reinforcing scrim to increase the puncture and tear resistance of their laminated sheet or the use of a fluoropolymer coating as other than a moisture blocking layer.

Eddy discloses an insulation core 24 overlaid by a laminate that has an outer polymeric film 52, a thermal and acoustical insulation material 56, and a reinforcing scrim embedded in the insulation material 56 to secure the scrim to the polymeric film.

Claim 76, as currently amended, defines a burn through, flame propagation and water vapor transmission resistant insulation system with a burn through, flame

propagation and water vapor transmission resistant sheet. The burn through, flame propagation and water vapor transmission resistant sheet consists of: a sheet of burn through and flame propagation resistant paper having first and second major surfaces and comprising: aramid fibers, mica flakes, and aramid fibril binder; the sheet of burn through and flame propagation resistant paper having the first major surface treated with a heat sealable, moisture and flame propagation resistant polyvinylfluoride water based emulsion coating that has a water vapor permeability of 4.0 perms or less to restrict the transmission of water vapor into the burn through barrier paper; and the sheet of burn through and flame propagation resistant paper having a sheet of reinforcing scrim bonded to one of the major surfaces of the sheet of burn through and flame propagation resistant paper (by the heat sealable, moisture and flame propagation resistant polyvinylfluoride water based emulsion coating) to increase the puncture and tear resistance of the burn through, flame propagation and water vapor transmission resistant sheet. Thus in the facing laminate of the subject invention, as defined in claim 76 and the claims depending therefrom, the heat sealable, moisture and flame propagation resistant polyvinylfluoride water based emulsion coating is not only used to restrict the transmission of water vapor into the burn through, flame propagation and water vapor transmission resistant sheet to preserve the integrity of the burn through and flame propagation resistant paper of the sheet but is also present in sufficient amounts, having a dry weight between 20 and 100 g/m², to bond the scrim to the paper.

The burn through, flame propagation and water vapor transmission resistant insulation system, as set forth in claim 76 and the claims depending therefrom, also includes a layer of lightweight, flexible, thermal and acoustical insulation material which has first and second major surfaces. The burn through, flame propagation and water vapor transmission resistant sheet overlays a major surface of the layer of insulation material with the treated first major surface of the burn through, flame propagation and water vapor

transmission resistant sheet being an outer surface of the burn through, flame propagation and water vapor transmission resistant sheet to restrict the transmission of water vapor into the burn through, flame propagation and water vapor transmission resistant sheet to preserve the integrity of the burn through and flame propagation resistant paper of the burn through, flame propagation and water vapor transmission resistant sheet as applied to the insulation layer.

As mentioned above, Forsten et al do not disclose or suggest the use of a reinforcing scrim to increase the puncture and tear resistance of their laminated sheet or the use of a fluoropolymer coating as other than a moisture blocking layer.

Eddy discloses an insulation system that includes an insulation core 24 overlaid by a laminate. The laminate of the Eddy insulation system has a polymeric film 52 forming an outer surface of the laminate and overlaying an insulation material 56 containing a scrim 54. Unlike the insulation system of the subject invention, as set forth in claim 76 and the claims depending therefrom, Eddy does not disclose or suggest a laminate wherein a heat sealable, moisture and flame propagation resistant polyvinylfluoride water based emulsion coating forms the outer surface of the laminate and insulation system to preserve the integrity of a burn through and flame propagation resistant sheet of laminate and wherein the heat sealable, moisture and flame propagation resistant polyvinylfluoride water based emulsion coating also bonds a scrim to the burn through and flame propagation resistant paper of the laminate.

Thus, neither Forsten et al or Eddy, when considered alone or together, disclose or suggest the insulation system of the subject invention as set forth in claims 76, 95, and 96. In view the amendments to claim 76 and for the reasons discussed above, the withdrawal of the rejection of claims 76, 95, and 96 under 35 U.S.C. 103(a) as obvious over Forsten et al in view of Eddy is solicited and the allowance of claims 76, 95, and 96 is requested.

Claim 97 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Forsten et al. (US Patent No. 6,312,561) as applied to claims 20, 73, and 76 and further in view of Hill et al (US Patent No. 4,874,648). Hill discloses polyimide foam insulation, but does not otherwise supplement the disclosures of Forsten et al and Eddy. In view of the amendment to claim 76 to include the limitations of claim 77, claim 97 is patentable for the same reasons discussed above in connection with amended claim 76 and the allowance of claim 97 is requested.

Respectfully submitted,



Attorney for Applicants

John D. Lister
Registration No. 23,004
(480) 641-7459